

At page 2, please delete the first paragraph (spanning lines 1-12), and insert in its place the following paragraph:

B2 We have now obtained and identified the correct RA autoantigen and this discovery leads to the development of prognostic and diagnostic tests for this disease and specific therapy. We have isolated and sequenced the native DNA for this autoantigen. We have also cloned and expressed this DNA. The amino acid and DNA sequences are novel and are shown in the Sequence List. The amino acid sequences of the BiP protein are given as two version, SEQ. ID. NO: 1 (which includes a histidine tag) and SEQ. ID. NO: 2 (which lacks the histidine tag). Either SEQ. ID. NO: 1 and/or SEQ. ID. NO: 2 may be used as a test reagent in accordance with the present invention. The cDNA for SEQ. ID. NO: 1 is disclosed in SEQ. ID. NO: 3. This sequence (SEQ. ID. NO: 3) has been deposited with GENBANK under Accession No. AF 188611. A comparison of this sequence with that of GENBANK Accession No. X 87949 is provided hereinafter. --

At page 7, please delete the third full paragraph (spanning lines 5-7), and insert in its place the following paragraph:

B3

NQLTSNPENTVFDK	(SEQ. ID. NO: 6)	82-96
SDIDEIVLVGGSTR	(SEQ. ID. NO: 7)	353-366
TWNDPSVQQDIK	(SEQ. ID. NO: 8)	107-113

At page 7, please delete the fourth full paragraph (spanning lines 8-10), and insert in its place the following paragraph:

B4

- Identified human protein: GR 78.
- Glucose-regulated protein precursor: GRP78.
- Immunoglobulin heavy chain binding protein: BIP.

At page 8, please delete the third full paragraph (spanning lines 17-20), and insert in its place the following paragraph:

Bip Forward Primer:

5'-TATACATATGGAGGAGGACAAGAAGGAGGACG-3' (SEQ. ID NO: 4)

Bip Reverse Primer

5'-CCACCTCGAGTTCTGCTGTATCCTCTTCACCA-3' (SEQ. ID. NO: 5)

Please delete the paragraph spanning page 14, line 21, to page 15, line 5, and insert in its place the following paragraph:

Despite the failure to induce arthritis by immunising animals with p78, we investigated whether DBA/1 mice during the course of CIA or PIA developed antibodies to p78. The results are depicted in Fig. 3. Mice developed serum anti-p78 antibodies at the onset of CIA ($O.D_{405} 0.189 \pm 0.042$, $m \pm sem$) and PIA (0.504 ± 0.074) when compared to pre-bleed sera (0.070 ± 0.019 ; $p < \text{versus CIA}$ and $p < \text{versus PIA}$, respectively). Furthermore, the concentration of these antibodies was significantly higher in the PIA mice as compared to the CIA mice. There were 14 mice in each group.

Please delete the paragraph spanning page 15, lines 7-20, and insert in its place the following paragraph:

The presence of antibodies to p78 in the sera of mice with CIA or PIA suggested that manipulating the immune response to p78 might prevent the subsequent development of CIA by a bystander phenomenon. HLA-DR1^{+/+} transgenic mice were injected intravenously with 1 mg of p78 prior to immunisation with type II collagen in CFA one week later (Table 2). Whereas 83% of animals had 46% of their limbs involved with arthritis at 8 weeks when pre-treated with saline, only 10% of animals had only 3% of their limbs involved with arthritis in the group previously given intravenous p78. These differences are highly significant ($p \leq 0.008$ and $p \leq 0.0001$). Table 2 also shows that there was a significant reduction in anti-collagen antibodies in the p78 pre-treated animals to one third the level in the controls. The reduction was equal in the IgG1 and IgG2 isotypes (Table 3). The histology of the joints of these

B7
Concl

animals confirmed the clinical findings in that there was no synovitis in the joints of pre-treated mice. ~

At page 23, after the last paragraph on the page, please insert the following paragraph:

B9 ~ (SEQ. ID. NO: 1) ~

At page 24, after the last paragraph on the page, please insert the following paragraph:

B9 ~ (SEQ. ID. NO: 3) ~

At page 25, at line 30, immediately prior to the word "Original," please insert the following paragraph:

A10 ~ (SEQ. ID. NO: 3) ~

At page 26, after the last paragraph on the page, please insert the following paragraph:

B11 ~ (SEQ. ID. NO: 9) ~

After the last claim, please insert on a new page the Abstract of the Disclosure, attached hereto.

IN THE CLAIMS

Please cancel Claims 19-21, 25-29, 31, and 35-39 without prejudice on the merits to further prosecution of these claims in one or more continuing applications. Please amend Claims 18, 22-23, 30, 32-33, 40-44, and 46-53, and please add new Claim 54, as follows: